

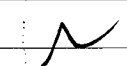
Work Order ID 135968

135968

Page 1

Wednesday, August 26, 2015 9:59:51 AM

Item ID: Rework Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Rework Multiple
 Start Date: 8/26/2015 Start Qty: 1.00 ***1*** Cust Item ID:
 Required Date: 9/1/2015 Req'd Qty: 1.00 ***1*** Customer:
 Reference:

Approvals: Process Plan:  Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								

101 0.00
101
 HandFXtube
 Hand Finishing Crosstubes

Memo
 PULL FROM STOCK:
 D407-667-105TRN:
 135107 ✓
 135108 ✓
 135109 ✓
 135112 ✓
 133608 ✓
 135114 ✓
 135111 ✓
 135110 ✓
 135113 ✓
 132268 ✓
 133609 ✓
 D206-667-101TRN:
 135094 ✓
 135099 ✓
 135100 ✓
 135098 ✓
 135102 ✓
 135095 ✓
 135096 ✓
 135097 ✓
 D212-664-101TRN:
 133574 ✓
 133577 ✓

JW / R 15-09-02

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Item ID: Rework Accept ***N900040100*** Setup Start ***NS1***
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QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
	✓133579 DOL								
	✓133572 DOL								
	✓133576 DOL								
	D212-664-147TRN:								
	✓132358 DOL								
	✓132357 DOL								
	✓132360 DOL								
	D212-664-247TRN:								
	✓120592 DOL								
	✓120593 DOL								
	✓D206-667-201TRN: RB								
	✓120860 RB								
	✓120863 RB								
	✓120861 RB								
	✓120862 RB								
	✓D407-667-205TRN: RB								
	✓132873 RB								
	✓132869 RB								
	✓133042 RB								
	✓133041 RB								
	✓133043 RB								
	✓133037 RB								
	✓133040 RB								
	✓133034 RB								
	D119-796-241TRN:								
	✓131719 RB								
	✓131717 RB								
	✓130863 RB								
	✓130864 RB								
	D119-796-141TRN:								
	✓131846 RB								
	✓131847 RB								
	✓131849 RB								

DL
JW
15/09/01

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Item ID: Rework

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Rework Multiple

Start Date: 8/26/2015 Start Qty: 1.00 ***1***

Cust Item ID:

Required Date: 9/1/2015 Req'd Qty: 1.00 ***1***

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
	131848 PD								
	D206-667-103TRN:								
	129305 PD								
	132288 PD								
	D206-667-203TRN:								
	129308 PD								
	132290 PD								
	D206-667-247TRN:								
	132352 PD								
	D412-664-203TRN:								
	129178 ES								
	124783 ES								
	129189 ES								
	129185 ES								
	129186 ES								
	129184 ES								
	129180 ES								
	129179 ES								
	D412-664-105TRN:								
	109151 ES								
	109152 ES								
	D412-664-205TRN:								
	102006 ES								
	102004 ES								
	-ACID ETCH								
	-ALODINE INSIDE AND OUT								
	PER CIR 1552								

BL
TW

15/09/02

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QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
110		0.00							
110									
QC	Memo	0.00							
Quality Control									
120	QC7-Inspect Chemical Conversion Coat	0.00							
120									
QC	Memo	0.00							
Quality Control									
130		0.00							
130									
Packaging	Memo	0.00							
Packaging	RETURN TO STOCK ON KANBAN WALL USING ORIGINAL B/NS'								

15-09-07
JW 15-09-09
DAS 38 9 9-89 9-89

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Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
140		0.00							
140		0.00							
Cat/Broch	Memo								
Catalogues and Brochures and Mark									

MF
15-9-14



Continuous Improvement Report

Reviewed
DQA:
Date:

Printed on: Wednesday, September 02, 2015

Details			
Raised Date 8/25/2015	Status Open	Owner Forbes, Nigel	Number CIR15-52
Target Date 10/23/2015	Standard		Severity
Process Employee Suggestion		Audit	
Raised By Person Duval, Patrick	Raised Against (Department or Supplier) Crosstubes		Fault Category General\Process Improvement
Details Process change.crosstube will be alodine at the end of the TRN work order.Current process call for alodine after bending, witch means that crosstube are sitting in inventory with no alodine			
Keywords		Product	
Document		Root Cause	
Closed By	Closed Date	Resolution	

Corrective Action			
Target Date 10/9/2015	Owner Downing, Eric M	Closed Date	Closed By
Details			

Actions			
Number	Owner	Target Date	Completed Date
Details		Response	
1	Duval, David	9/30/2015	8/27/2015
Update all BOM's & routes for all TRN crosstubes		done did the changes	
2	Duval, David	9/30/2015	
Update all WIP work orders to reflect the change in procedure			
3	Poulin, Mario	9/30/2015	
Create work orders to pull all non alodine TRN crosstubes per part # and Alodine as per new procedures. Record batch #'s on WO and return all parts to storage under original batch #			

Verification & Review

Target Date 10/9/2015	Owner Downing, Eric M	Closed Date	Closed By
Details			

Actions

Number	Owner	Target Date	Completed Date
Details		Response	

Previous Process (Scenario 2)

1. Crosstubes are turned on Mori Seiki
2. QC8 inspections
3. Grind machining marks fom crosstubes
4. Acid etch (25-30 minutes -- 2 people) —
5. Alodine (5 minutes -- 1 person.)
6. ¹QC5 inspection
7. Place on Kanban wall Protected from corrosion
8. Bend crosstube, drill, grind outside
9. QC5
10. Touch up grinding
11. Touch up alodine (< 5 minutes -- 1 person)
12. NDT

135968

CIR

Points of Interest

- Tube is protected on kanban wall because inside of tube is alodined
- no need to scrub inside of tube after bending as it's protected by alodine already
- alodine sticks well because it's adhering to freshly ground aluminum
- process requires one person to alodine inside, at a time where you're already in alodine room
- total time of each tube in alodine room is shaved by 15 minutes (actual time) and one person
- paid time per tube 1 hour - 1h10min (approx)
- Ndt is now the last step, which is how the inspection gains credibility. if the tubes are damaged after inspection while doing major work on it, it has the possibility to nullify the inspection

This process allows us to place the tubes on the Kanban wall protected from corrosion, and eliminates the possibility of it being a problem at a later step (i.e. Alodine not sticking). The Process also CAN be done with one person if necessary

In summary it requires less time to accomplish a better result in the long run. Paid time is lower for a more thorough job.

xtubes to be Alodined

Needs - Acid Etch
- Alodine
- QC7

D407-667-105

B135107	133608	135113
135108	135114	132268
135109	135111	133609
135112	135110	

(11)

D206-667-101

B135094	135102
135099	135095
135100	135096
135098	135097

(8)

D212-664-101

133574	133576
133577	
133579	
133572	

(5)

D212-664-107

132358
132357
132360

(3)

D212-664-207

120593
120592

(2)

D206-667-201

120860
120863
120861
120862

(4)

(33)

(33) (29) = 62
lbs

D407-667-205

132873 133043

132869 133037

133042 133040

133041 133034

(8)

D119-796-241

B131719

131717

130863

130864

(4)

D119-796-141

131846

131847

131849

131848

(4)

D206-667-103

B 129365

132288

(2)

D206-667-203

B 129368

132290

(2)

D206-667-204

132352

(1)

D 412-664-203

B 129178

124783

129189

129185

129186

129184

129180

129179

(8)

(29)

102004

102006

D412-664-205

109152

109151

D412-664-105

Patrick Duval

From: Nigel Forbes
Sent: Tuesday, August 25, 2015 8:44 AM
To: Patrick Smith; Patrick Duval
Cc: Eric Downing; Linda Lacelle; Jesse White; Mario Poulin
Subject: RE: Alodine process changes
Attachments: Alodine process.rtf

Good morning,

I'm following up on this initiative from Jesse.

I did not see any conflicts or reasons not to implement his changes to the alodine process for crosstubes. The suggested method does not conflict with QSI005.

Unless someone provides clear objections, I would like Jesse and his team to proceed with his suggested method this week /

Thanks

Nigel

From: Nigel Forbes
Sent: November-04-14 11:50 AM
To: Jesse White <jwhite@dartaero.com>
Cc: Patrick Smith <psmith@dartaero.com>; Eric Downing <edowning@dartaero.com>; Linda Lacelle <llacelle@dartaero.com>
Subject: RE: Alodine process changes

I'm good with it!
Pat, as discuss, it's go

From: Jesse White
Sent: November-04-14 11:15 AM
To: Nigel Forbes
Subject: Alodine process changes

Nigel,

As discussed, here is a copy of the proposed changes to the alodine process, outlining the pro's and con's of each scenario.

thanks,

Jesse